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(54) (Title of Invention) Pop-up help system  
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**Specification**

**1. Title of the Invention**

Pop-up help system

**2. Claims**

A pop-up help system which, in a data processing system able to display a help screen on part of the display screen of the display device, is provided with

a display screen memory area which stores an image of said display screen,

a help screen memory area which stores an image of said help screen,

and a display control unit which following a specific key operation displays on part of said display screen the help screen image stored in said help screen memory area, and following a separate specific key operation displays on said display screen the display screen image stored in said display screen memory area.

### 3. Detailed Description

(Field of Industrial Use)

The invention relates to a pop-up help system, and in particular relates to a pop-up help system in a data processing system which is able to display a help screen on part of the display screen of the display device.

(Prior Art)

This kind of pop-up help system conventionally only has a display screen memory area, the overlaying of a help screen

image on part of the display screen to display the help screen being done by exchanging part of the image of the display screen stored in the display screen memory area with the help screen image. For this reason when cancelling the help screen display and returning to the original screen display shown before the help screen was overlaid, the original display screen image has to be processed and regenerated, the image of the display screen stored again in the display screen memory area, and the display screen image stored in the display screen memory area re-displayed.

(Problems to Be Resolved by the Invention)

As there is only a display screen memory area with the conventional pop-up help system, the display screen image stored in the display screen memory area being lost when overlaying a help screen image on the display screen, there is the disadvantage that it takes time to restore the original display screen since the original display screen image has to be processed and regenerated, the image of the display screen stored again in the display screen memory area, and the display screen image stored in the display screen memory area re-displayed.

The purpose of the invention, taking note of the above difficulties, is to provide a pop-up help system with a good

response time for restoring the original display screen by reducing the time required to re-display the original display screen.

(Means of Resolving the Difficulties)

The pop-up help system of the invention, in a data processing system able to display a help screen on part of the display screen of the display device, is provided with a display screen memory area which stores an image of said display screen, a help screen memory area which stores an image of said help screen, and a display control unit which following a specific key operation displays on part of said display screen the help screen image stored in said help screen memory area, and following a separate specific key operation displays on said display screen the display screen image stored in said display screen memory area.

(Action) With the pop-up help system of the invention, the display screen memory area stores an image of the display screen, the help screen memory area stores an image of the help screen, the display control unit displaying the help screen image stored in the help screen memory area on part of the display screen following a specific key operation, and displaying the display screen image stored in the display

screen memory area on the display screen following a separate key operation.

(Embodiment)

The invention will now be described in detail with reference to the drawings.

Fig. 1 is block diagram illustrating a data processing system to which an embodiment of the pop-up help system of the invention has been applied. This data processing system is comprised principally of central processing device 1, main memory 2, display device 3, keyboard 4, and floppy disk drive 5.

Central processing device 1 is arranged to include display control unit 11.

Main memory 2 is arranged so as to comprise display screen memory area 21, help screen memory area 22, and help content memory area 23.

With reference to Fig. 2, display device 3 is arranged such that display screen area 31 covers the whole screen, with part of display screen area 31 (for example the area at the bottom right corner) designated as help screen area 32.

It should be noted that the position of help screen area 32 may be varied as required.

The operation of the pop-up help system in an embodiment having the structure described above will now be explained with reference to actual examples shown in Figs. 3 (a)-(c).

When a data processing system is started up with a floppy disk in floppy disk drive 5 containing an application program (hereinafter simply referred to as 'the program') which displays the results of its execution on display device 3, display control unit 11 is formed in central processing device 1, reserving display screen memory area 21, help screen memory area 22 and help content memory area 23 in main memory 2. The help content is stored in help content memory area 23.

When the programme is run, the results are obtained as the display screen image, and stored in display screen memory area 21.

Display control unit 11 displays the display screen image stored in display screen memory area 21 as the display screen in display screen area 31 of display device 3, as shown in Fig. 3 (a), for example.

Having seen the display screen showing the results of the program displayed in display screen area 31 of display device 3, when the user presses the Help key (not shown in the diagram) on keyboard 4 for guidance on how to make a selection from the display for example, display control unit 11 first reads the help content corresponding to the results displayed on the display screen into help screen memory area 22 from help content memory area 23 as the help screen image. Next, display control unit 11 overlays the help screen image read into help screen memory area 22 onto the display screen showing the results displayed in display screen area 31 of display device 3, displaying this as the help screen in help screen area 32, as shown in Fig. 3(b) for example.

When the user presses the Scroll key (not shown in the diagram) on keyboard 4 with the display on the help screen, display control unit 11 sequentially switches the help content read into help screen memory area 22 as the help screen image from help content memory area 23, scrolling the help screen content displayed in the help screen area 32.

To cancel the display of the help screen the user presses the Cancel key (not shown in the diagram) on keyboard 4, whereupon display control unit 11 displays the part of the display screen image corresponding to the help screen area 32 stored in part of display screen memory area 21 on help

screen area 32. As a result, help screen area 32 switches over to the part of the display screen corresponding to help screen area 32, the original display screen being restored on display screen area 31 of display device 3, as shown for example in Fig. 3 (c).

It should be noted that with this embodiment it is arranged that only part of the display screen corresponding to help screen area 32 is reproduced when the Cancel key is depressed, but the entire display image corresponding to display screen area 31 may also be reproduced.

(Effect of the Invention)

As described above, through the provision of a display screen memory area, a help screen memory area and a display control unit, the invention is able to restore the original display screen in a short time after displaying a help screen on part of the display screen of the display device, with the result that the response time for restoring the display image is greatly improved.

#### 4. Brief Description of the Drawings



Fig. 1 is a block diagram illustrating a data processing system to which an embodiment of the pop-up help system of the invention has been applied

Fig. 2 is a diagram illustrating the display screen of the display device in Fig. 1.

Figs. 3 (a)-(c) respectively show examples of displays on the display screen in Fig. 2.

In the Figures:

- 1 ... central processing device
- 2 ... main memory
- 3 ... display device
- 4 ... keyboard
- 5 ... floppy disk drive
- 11 ... display control unit
- 21 ... display screen memory area
- 22 ... help screen memory area
- 23 ... help content memory area
- 31 ... display screen area
- 32 ... help screen area

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図 3 図 (a)

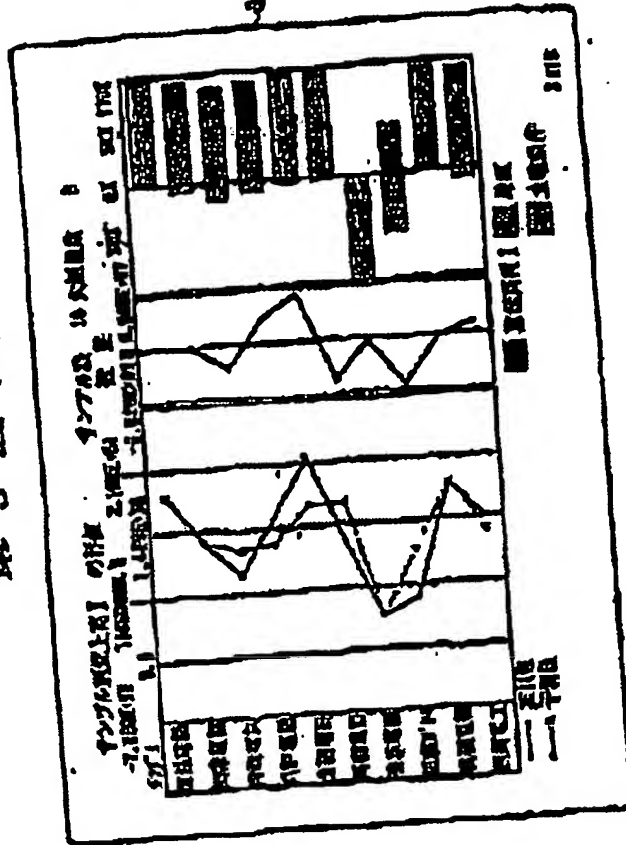


図 1 図

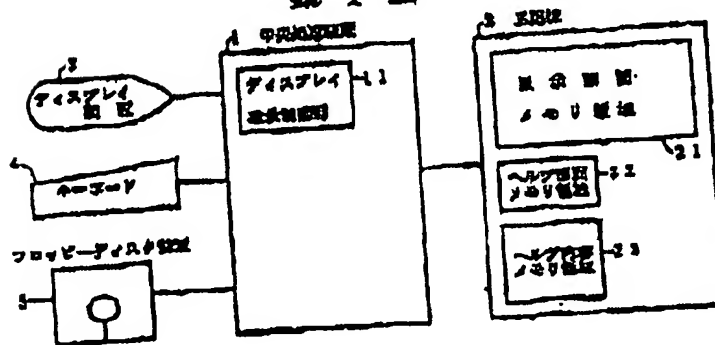
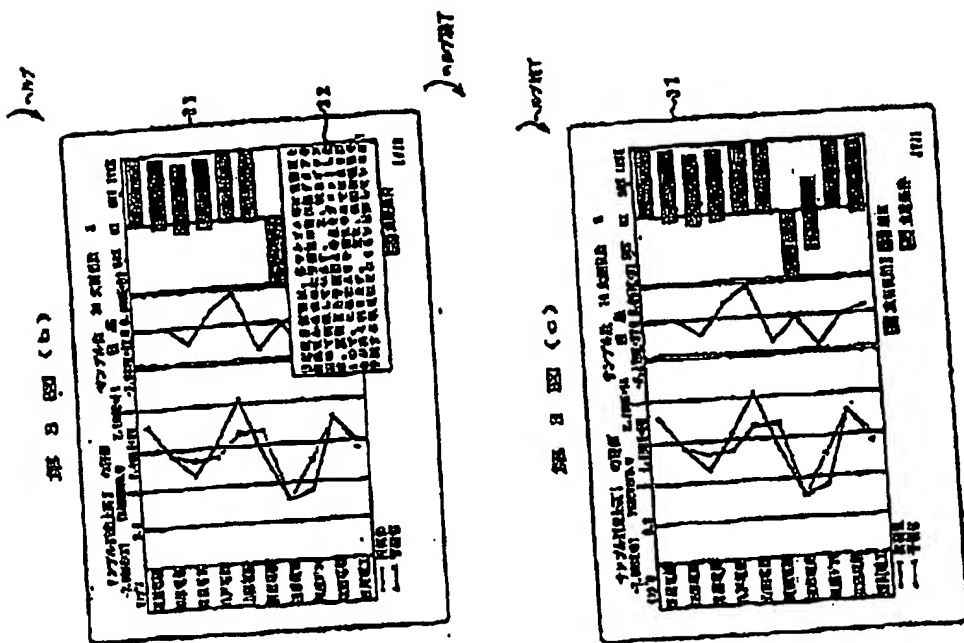
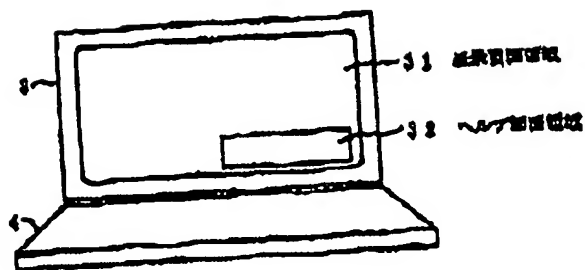


图 2 图



# Key to Figures

Fig. 1

- 1 ... central processing device
- 2 ... main memory
- 3 ... display device
- 4 ... keyboard
- 5 ... floppy disk drive
- 11 ... display control unit
- 21 ... display screen memory area
- 22 ... help screen memory area
- 23 ... help content memory area

Fig. 2

31 ... display screen area  
32 ... help screen area

Fig. 3 (a)

Sample display screen (31) (Sales analysis)

Bottom arrow: Help

Fig. 3 (b)

Sample display screen (31) with help screen (32)

Top arrow: Help

Bottom arrow: Cancel Help

Fig. 3 (c)

Sample original display screen (31)

Top arrow: Cancel Help